



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/773,388 | 02/05/2004 | Jiansan Sun | 70019152-1 | 6348 |

22879 7590 07/19/2006

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

| |
|----------|
| EXAMINER |
|----------|

SOLOMON, LISA

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2861

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,388

Applicant(s)

SUN ET AL.

Examiner

Lisa M. Solomon

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being obvious over Xu et al. (6,785,956).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing

Art Unit: 2861

that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Xu et al. (6,785,956) teaches a method of manufacturing a heating element for a printhead, said method comprising:

Claim 18:

- forming an insulating layer on a substrate
- partially etching through the thickness of the insulating layer to define a protruding portion having substantially vertical sidewalls and flanked by two shoulder portions
- depositing a conductive layer on the insulating layer to cover the protruding portion and the shoulder portions
- planarizing a surface of the conductive layer to expose the protruding portion to thereby form a first conductive trace separate from the second conductive trace
- forming a resistive layer over the planarized surface of the conductive layer and the exposed protruding portion [Column 5 line 40-Column 6 line 29, See Figs. 3A and 4].

Claim 19:

- the resistive layer is at least substantially uniformly thick [Column 6 lines 23-29, See Fig. 3A, element 30].

Xu et al. (6,785,956) teaches a method of manufacturing a thermal inkjet printhead, said method comprising:

Claim 20:

- forming an insulating layer (44, Fig. 3A) on a substrate
- partially etching through the thickness of the insulating layer to define a protruding portion having substantially vertical sidewalls and flanked by two shoulder portions
- depositing a conductive layer (40, Fig. 3A) on the insulating layer to cover the protruding portion and the shoulder portions
- planarizing a surface of the conductive layer to expose the protruding portion to thereby form a first conductive trace separate from the second conductive trace
- forming a resistive layer (30, Fig. 3A) over the planarized surface of the conductive layer and the exposed protruding portion
- forming an ink chamber above the resistive layer [Column 5 line 40-Column 6 line 29, See Fig. 3A, element 100].

Claim 21:

- forming a passivation layer between the resistive layer and the ink chamber, said passivation layer being made of an insulating material [Column 5 lines 5-11, Column 6 lines 42-44, See Fig. 3A, element 50].

Claim 22:

- forming a cavitation barrier layer between the passivation layer and the ink chamber [Column 6 lines 42-44, See Fig. 3A, element 60,70].

Xu et al. (956') does not explicitly teach the dielectric layer (44, Fig. 3A) as an insulating layer.

However, it is well known that dielectric material does not conduct electricity readily, i.e., an insulator as defined in The Columbia Electronic Encyclopedia, Sixth Edition [Paragraph 3, Encyclopedia information about dielectric, The Columbia Electronic Encyclopedia, Sixth Edition [online], 2003 [retrieved on 2006-07-05]. Retrieved from the Internet: <URL: <http://www.answers.com/topic/dielectric> and <http://www.cc.columbia.edu/cu/cup/>] (Claim 18).

Xu et al. (956') teaches the claimed invention except for the explicit recitation that the passivation layer being made of an insulating material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize insulating material for the passivation layer, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the

intended use for the purpose of provide insulation of the resistive and conductive layers
[Column 5 lines 12-14] In re Leshin, 125, USPQ 416 (Claim 21).

Response to Arguments

3. Applicant's arguments, see page 6 lines 11-25, filed May 10, 2006, with respect to the rejection(s) of claim(s) 19 under 35 U.S.C. 112 2nd paragraph have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art reference. An explanation of the rejection can be found under Claim Rejections - 35 U.S. C. 103.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

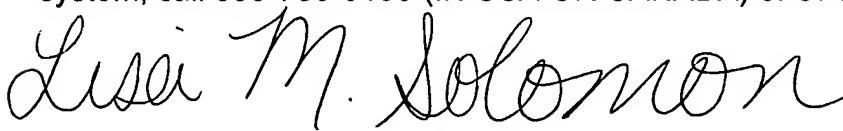
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

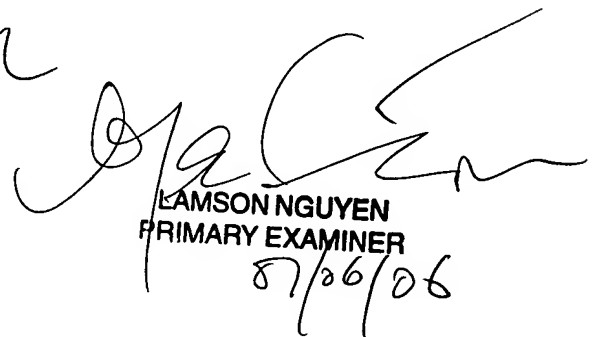
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Solomon whose telephone number is (571) 272-1701. The examiner can normally be reached on 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Lisa M. Solomon
Patent Examiner
7/05/2006



LAMSON NGUYEN
PRIMARY EXAMINER
8/26/06